Encasement of pressure pipes.

All pressure pipes six inches in diameter and larger carrying liquids shall be encased when crossing under the roadbed of trunk highways. All pressure pipes six inches in diameter and larger carrying gases shall be encased under trunk highways unless approved by the department.

Trenching of pipelines.

Pipe lines installed prior to or in conjunction with new grading projects may be trenched in place. Where pipes have sufficient inherent strength and are coated or of a non-corrosive material, casings are not required. The minimum depth of cover in the ditch shall be 3 1/2 feet, unless other protective measures are applied.

Crossing installations.

Installation crossing existing highways and made subsequent to highway construction may be placed by augering from inside the pipe. Pre-augering is not permissible. The leading edge of the auger head shall not protrude more than one inch from the end of the casing during boring operations. Carrier pipe six inches in diameter and under may be installed by pushing or jacking it under an existing roadway. When permit allows, directional boring will be used.

Gravity systems.

Gravity systems shall be encased when installed by jacking and/or boring, unless the carrier pipe is of such size and material that it would normally be installed without a casing.

Recommended boring specifications.

A. Casing pipe shall be installed using equipment that encases the hole as the earth is removed. Boring without the concurrent installation of a casing pipe is not permissible. All joints in steel casing pipe shall be welded. Casing pipe shall extend through the entire fill and be installed in a manner that will not disrupt traffic nor damage the roadway grade and surface. The introduction of water into an excavation is prohibited.

B. Casing pipe shall be welded steel pipe, new material, with a minimum yield strength of 35,000 PSIG (pounds per square inch gauge). The following minimum wall thickness shall be used:

Table 1. - Casing Pipe Wall Thickness (in.)

Outside Diameter	Under Highway
12" to 24"	0.250
30"	0.375
36" to 42"	0.500

C. Reinforced concrete casing pipe shall be properly classed based on the depth of cover over the pipe. A minimum of 5000 psi (pounds per square inch) concrete pipe shall be used when casing pipe is jacked. Bell type ends shall not be permitted.

D. No boring shall be started under any portion of the roadway until an approved permit to do so has been received by the contractor.

Scenic quality.

Ground-mounted and aerial utility facilities shall be of a design compatible with the scenic quality of the specific highway being traversed and shall blend in with the ground contours and the scenery, wherever possible. In areas of unusual scenic interest, including but not limited to major recreational areas, historic areas and major publicly and privately owned tourist attractions underground utility placement shall generally be provided if feasible.

Traffic plan.

A written traffic control plan shall be designed that is based upon the *Minnesota Manual on Uniform Traffic Control Devices.*

Specimen trees.

Where underground utilities are to be installed near specimen trees, as identified by the State, the tree root systems shall be protected by boring (tunnelling) under the roots in the manner described below. The minimum tunnel depth within the root zone shall not be closer than 24 inches to the soil surface. Open trenching will not be permitted within the protection limits described.

Boring will be required if the trench is located within the following radius:

Table 2. - Tree Protection Criteria

Tree Diameter (4-1/2' Aboveground)	Distance From Face of Tree Trunk
0-2 Inches	1 Foot
3-4 Inches	2 Feet
5-9 Inches	5 Feet
10-14 Inches	10 Feet
15-19 Inches	12 Feet
Over 19 Inches	15 Feet

In lieu of boring (tunnelling), the applicant may re-route underground utility lines to avoid damage to specimen trees.

SECTION V. LOCATION, GENERAL

Utility lines should be located to minimize the need for later adjustment to accommodate future highway improvements, and to permit access for servicing lines with a minimum of interference to highway traffic.

Longitudinal installations should be located on uniform alignment, with pole lines placed in the outer five feet next to the right of way line. Underground facilities, such as power cable and telephone cable, should be in the outer ten feet and distribution gas mains should be parallel and adjacent to these facilities. Other locations may be approved where particular circumstances warrant. The department has no objection to the joint use of pole lines or of common trenching, or plowing, of underground facilities. The installation, however, should be so placed that all servicing may be done with the minimum of disturbance to traffic (except for freeways as described in AASHTO Policy).

All utility crossings of the highway should be normal (perpendicular) to the highway alignment, where practicable.

The horizontal and vertical location of utility lines within the highway right of way shall conform with the clear roadside policy (clear zone) applicable to the type of highway and the specific conditions of highway section involved.

The clear roadside policy is the policy employed by the highway authority to increase safety, improve traffic operations, and enhance the appearance of highways by designing, constructing, and maintaining highway roadsides as wide, flat, rounded and as free, as practical, from physical obstructions above ground; such as from trees, drainage structures, massive sign supports, utility poles, and other ground-mounted obstructions.

Placement of above ground fixtures in the right of way will be governed by the provisions of *AASHTO, Roadside Design Guide (1989)* and *AASHTO "A policy on Geometric Design of Highways and Streets" (1990-Green Book).*

SECTION VI. LOCATION, FREEWAYS; LONGITUDINAL OCCUPANCY

The placement of underground utilities may be permitted longitudinally within freeway right of way, provided the utility is placed in accordance with these procedures, and the utility owner has received an approved permit and/or written agreement from the department. ~~Above ground appurtenances shall not be allowed within freeway right of way except as stated in these procedures.~~

~~The loss of productive agricultural land or any productivity of agricultural land will be evaluated for direct and indirect environmental and economic effects in determining permissible occupancy of utilities longitudinally on freeways.~~ Per the Agreement

A. Occupancy shall satisfy all the following conditions:

(1) The accommodation will not adversely affect traffic safety, design, construction, operation capacity, maintenance, stability or interfere with the present use or future expansion of the freeway.

(2) The accommodation shall present no hazard to life, health or property if it fails to function properly, is severed, or otherwise damaged.

(3) Only fiber optic cable will be allowed longitudinal on freeways.

↑ , supporting Network equipment, and AC utility power for the Network

~~(4) Service connections to adjacent properties shall not be allowed from within the access control limits.~~

~~(5) Construction and maintenance activities shall be accomplished without access from through traffic roadways or ramps. Access can be obtained from a frontage road, rest area parking facility, near by public road or trail along the right of way.~~

~~a. The department may allow maintenance access through a locked gate in the right of way fence or as specified by permit or agreement.~~

~~b. The department may allow construction and maintenance access from the mainline roadways or ramps under hardship considerations, if specified in a permit or agreement.~~

~~c. The utility shall provide detailed plans on how the proposed facility will be constructed and maintained without access from the through traffic roadway or ramp.~~

Per the Agreement

(6) No installation will be allowed longitudinal within the median of a divided highway.

~~(7) No utility facility will be allowed on a structure which carries a freeway roadway or ramp, except as may be specified in a permit. The department may allow facilities on a structure based upon hardship considerations.~~

~~(8) The utility will provide a detailed plan of its maintenance schedule including both routine and emergency procedures when submitting it's permit application.~~

Per the Agreement

(9) The installation shall be placed on a uniform alignment near the right-of-way line, or as determined by the department, and with a minimum depth of 36 inches.

a. No installation will be allowed within the clear zone of through-traffic roadways or ramps.

b. The department reserves the right to waive the minimum depth requirement where rocky terrain creates difficulty in obtaining the desired depth.

c. Pull boxes may be installed under the existing ground line. The number and location will be subject to departmental approval.

d. Repeater stations will be ~~placed outside~~ allowed inside the right-of-way fence or access control limits. The department may allow repeater stations near the outside edge of the right-of-way in rest areas if specified in a permit. subject to MnDOT (permit) approval.

(10) Warning tape will be placed at a minimum depth of 12 inches below the existing ground surface and above the installed facility to help locate the facility in the future.

(11) The utility shall abide by all traffic control measures as set forth in the permit or agreement.

(12) Utility sign markers shall be placed by the utility within the right-of-way fence line. Signs shall identify the owner/operator name, Gopher State One telephone number and type of facility buried by the utility.

a. Utility sign markers shall be placed and maintained at a maximum interval of 1/4 mile by the utility.

b. Utility signs shall be appropriately located at each side of all public roads, streets and trails where freeway right-of-way intersects with the right-of-way of these public roads, streets and trails.

~~(13) All additional identifiable costs incurred by the department in accommodating existing utility facilities during maintenance operations and reconstruction projects will be charged to the utility. These costs include but are not limited to the following:~~

~~a. Design~~

~~1. Data collection.~~
~~2. Determination of the different phases of the reconstruction project.~~

~~b. Reconstruction~~

~~1. Cost to work around utility.~~
~~2. Delays caused by utility inability to move their facility.~~
~~3. Construction claims due to delays.~~
~~4. Utility claims due to loss of revenue caused by interruption of service.~~

Per the Agreement

c) Maintenance

Delays in maintenance due to utility failure to locate their facilities.

~~(14) The utility shall indemnify and hold harmless the department and all of its agents~~ and employees from any and all claims, demands, actions or causes of action of whatsoever nature or character arising out of or by reason of permit or work done or the continuing presence of the utility by virtue of this permit and or agreement. The utility provided for herein agrees to defend at its own sole cost and expense any action or proceeding commenced for the purpose of asserting any claim of whatsoever character arising hereunder by virtue of the execution, performance, or non-performance of the work to be performed by the utility as provided by the permit and or agreement. The utility shall pay all costs related to service interruptions or damage to their facilities caused by the department's contractor or employees due to highway operations.

(15) The utility agrees to waive all future claims, if any, to relocation costs caused by maintenance or reconstruction of the transportation system requiring relocation of their facilities.

(16) Violation of any conditions of the permit or agreement in any of the above conditions may be cause for the department to revoke the permit or agreement.

B. Multi-Duct System

(1) The department reserves the right to require installations to be placed in a multi-duct system consisting of two or more inner ducts. The installation details are subject to the approval of the department.

a. The department may designate the first utility company requesting occupancy as the "lead utility". The lead utility shall be responsible for the following:

1. Design and construction of the multi-duct system.
2. Maintaining the inner duct occupied by the lead utility.
3. Providing all capital required to construct the multi-duct system.

b. The department may discount annual fees of the lead utility until the utility has recovered all or an agreed upon portion of the cost of placing the multi-duct system.

c. All of the inner ducts within the duct system will be owned by the department except those occupied by the lead utility and/or other utilities which have permits and/or agreement with the department.

Per the Agreement

d. All subsequent requests for longitudinal occupancy will require the installation to be placed within one of the inner ducts of the established multi-duct system if there are inner ducts unoccupied.

e. Subsequent occupants will purchase their share of the conduit system by payment to the department of a proportionate share of the original cost of the multi-duct system. The amount will be determined by the department.

f. The department reserves the right to require one inner duct of a multi-duct system to be reserved for government use.

g. No utility will be allowed to assign or transfer ownership of their inner duct of the multi-duct system to another party without departmental approval.

h. The department may revoke it's approval to use an inner duct of a multi-duct system if not occupied or placed in service by the utility within six months after receiving approval from the department.

i. Any utility having a fiber optic cable within an inner duct of a multi-duct system shall become owner of that inner duct.

C. Prior to starting any work on the freeway right of way the utility shall have:

(1) Paid all required fees to the department.

a. Annual fees shall be assigned based on the location of the occupancy as follows:

Urban sections: An annual fee of $5,000 per mile of occupancy, or a minimum fee of $10,000 per installation, whichever is greater.

Rural sections: An annual fee of $1,600 per mile of occupancy or a minimum of $8,000 per installation whichever is greater.

The department reserves the right to add locations to the approved routes as existing highways are changed to freeway standards, and as new census data is received. See *Appendix A, Metro Freeway Locations*, and *Appendix B, Rural Area Freeway Locations*.

b. Established fees will be reviewed by the department for adjustment every fifth year from the effective date of these procedures.

(2) Placed a performance bond with the department, in an amount determined by the department, to guarantee prompt restoration of any damages caused during the installation of a facility.

Per the Agreement

~~(3) Certify through appropriate documentation that the utility has and will maintain an appropriate type and amount of insurance coverage, as specified in the permit.~~

~~(4) Received an approved permit and/or agreement from the department. Permits or agreements shall be negotiated for periods of up to 20 years and may be extended at the department's discretion.~~

Per the Agreement

D. The department may allow utilities on freeways longitudinally, if the proposed occupancy conforms with the AASHTO policy *"A Policy on the Accommodation of Utilities Within Freeway Right-of-Way"* and *U.S. Code, Title 23, Part 645.209(c).*

SECTION VII. LIGHTING AND OTHER ABOVE GROUND STRUCTURES.

Any above ground lighting facility, lighting fixture supports or other above ground structures, must be located outside of the clear roadside policy area (clear zone), except under conditions in items A thru D below, or where the right of way width limits are less than the clear roadside policy requires and it is not cost effective to do otherwise.

A. Light poles must conform with breakaway design features as defined in the most current revision of the *1985 AASHTO, Standard Specifications for Structural Support.*

B. Any substantial remains of structures, or bases, must protrude less than 4 inches above the surface of the natural ground, and be maintained at that level. This requirement is in the most current revision of the *1985 AASHTO Standard Specifications for Structural Support.*

C. The installation is in an area where the posted speed limit is 40 miles per hour or less.

(1.) Curbed areas: 2 feet min. behind face of curb.

(2.) Other: 10 feet from roadway.

D. The facility is protected by a guardrail or is located in a protected area.

SECTION VIII. UTILITIES ON HIGHWAY BRIDGE STRUCTURES

Utility installations on highway structures are allowed by the Agreement ~~utility permit or may be provided for by agreement when installed in conjunction with highway construction~~. Such installations must be approved by the Minnesota Department of Transportation, Office of Bridges and Structures before construction of the utilities' facility may begin.

The utility is responsible for the design of its facility, subject to State approval. Factors influencing the design of an installation are the effects on traffic flow, structural integrity of highway structures, ease of highway and utility maintenance, and appearance of the installation.

Per the Agreement

All utility installations on highway structures shall be constructed of durable materials designed with a long life expectancy, and must be installed in a manner that will minimize routine servicing and maintenance over the design life of the facility.

Future growth of a utility should be considered. The system should be planned so as to avoid interference with highway traffic should expansion be required. ~~It may be advantageous to install utility facilities at the time of state bridge construction to minimize the expense of a future expansion program.~~

Generally, utility installations on structures shall be above low superstructure and inside of the fascia element. The strength of beams or girders cannot be reduced by drilling or welding. Field welding on structures is not permitted. Expansion shall be provided for on all conduit and pipe runs. All supports shall be of a non-rusting material. Any abutment opening around a utility installation shall be sealed.

Conduit shall be galvanized steel (which may be coated) or fiberglass. A duct run shall generally terminate in the shoulder beyond the bridge approach panels.

State procedures limit parallel pipe line installations on highway structures to water, steam, sewer, cable TV, telephone, fiber optic lines, power, and low pressure natural gas distribution. No high pressure natural gas distribution lines are permitted. All will be installed in accordance with the latest applicable Codes. A shut off valve is required on all pressure lines within a reasonable distance from each end of the structure. Gas lines must be vented in an approved manner.

SECTION IX. SCENIC ENHANCEMENT

New utility installations, including those needed for highway purposes (such as for highway lighting or to serve a weigh station, rest area, or recreation area) are not permitted on highway right-of-way or other lands acquired or improved with Federal-aid funds or direct federal highway funds that are located within, or adjacent to, areas of scenic enhancement and natural beauty. Such areas include public parks and recreational lands, wildlife and waterfowl refuges, historic sites (as described in *23 U.S.C. 138*), the Great River Road, roadways with a "scenic" designation, scenic strips, overlooks, rest areas and landscaped areas. The Minnesota Department of Transportation may permit exceptions provided the following conditions are met:

A. New underground or aerial installations may be permitted only if extensive removal or alteration of trees or terrain features visible to the highway user is not required, or the aesthetic quality of lands being traversed is not impaired.

B. Aerial installations may be permitted only when:

   (1) Other locations are not available, are unusually difficult or costly, or are less desirable from the standpoint of aesthetic quality.

(2) Placement underground is not technically feasible, or is unreasonably costly, and

(3) The proposed installation will be made at a location that will employ a suitable designs and materials which give the greatest weight to the aesthetic qualities of the area being traversed. Suitable designs include, but are not limited to, self-supporting, armless, single-pole construction with a vertical configuration of conductors and cable.

~~APPENDIX A~~

~~METRO AREA FREEWAY LOCATIONS~~

~~Current FAI urban sections~~
~~Based on 1980 census changes~~

~~ROUTE~~	~~REFERENCE~~ POINT	SECTION DESCRIPTION	~~LENGTH~~ (MILES)
2	111+00.015 114+00.526	W URB BDRY BEMIDJI, JCT. TH 197 S LTH BEMIDJI (OUTSIDE) S URB BDRY NEAR C.S.A.H. 11	3.537
2	263+00.085 264+00.089	E JCT ISTH-35 NB IN DULUTH MIDDLE BR-69100, MN-WS STATE LINE	1.004
3	050+00.440	JCT TH 94 IN ST. PAUL 70TH STREET IN INVER GROVE HEIGHTS	
10	145+00.396 146+00.932	LIM LITTLE FALLS, N URB BDRY NEAR TH 371 S LIM LITTLE FALLS (OUTSIDE), S URB BDRY NEAR 4ST ST SE	1.816
10	173+00.526 178+00.043	N URB BDRY ST CLOUD NEAR TH 15 CSAH 29 XNG E LIM ST CLOUD, E URB BDRY	4.019
10	224+00.151 233+00.140	MAIN ST IN ANOKA JCT TH 10 IN COON RAPIDS	8.976
12	153+00.605 156+01.014	CSAH 15 IN WAYZATA Jct TH 494 IN MINNETONKA	3.517
14	127+00.604 133+00.822	JCT LOOKOUT DR in N MANKATO TEMP JCT USTH-14 IN N MANKATO	6.160
35	041+00.603 043+00.193	S URB BDRY OWATONNA NEAR CSAH 25 N URB BDRY OWATONNA NEAR SB RAMP T-37	1.693
35	055+00.686 056+00.916	S LIM FARIBAULT, S URB BDRY NEAR CO RD 93 N LIM FARIBAULT (OUTSIDE), N URB BDRY NEAR JCT TH 61	1.234
35	080+00.834 088+00.267	SCOTT-DAKOTA CO LINE, S LIM LAKEVILLE S JCT ISTH-35W & ISTH-35E	7.434
35	236+00.707 239+00.099	S LIM CLOQUET, S URB BDRY CLOQUET AT BR# 9469 E LIM CLOQUET, E URB BDRY CLOQUET NEAR BR# 09803	2.388
35	248+00.523	W LIM PROCTOR, W URB BDRY DULUTH NEAR UGSTAD RD	11.125
	~~259+00.599~~	~~26TH AVE E, PROPOSED ISTH-35 ENDS~~	

Per Table H of Exhibit A to the Agreement

~~APPENDIX B~~

~~RURAL AREA FREEWAY LOCATION~~

~~CURRENT FAI RURAL SECTIONS~~

~~BASED ON 1980 CENSUS CHANGES~~

~~ROUTE~~	~~REFERENCE~~ POINT	SECTION DESCRIPTION	~~LENGTH~~ (MILES)
2	114+00.526	S LIM BEMIDJI, S URB BDRY NEAR CSAH	4.546
	119+00.029	CSAH 50	
10	142+00.206	CSAH 52 NEAR LITTLE FALLS	3.350
	145+00.396	N LIM LITTLE FALLS N URB, BDRY NEAR TH 371	
35	000+00.000	IOWA STATE LINE	41.503
	041+00.193	S URB BDRY OWATONNA	
35	043+00.193	N URB BDRY OWATONNA NEAR SB RAMP T-37	12.509
	055+00.686	S LIM FARIBAULT, S URB BDRY NEAR CO RD 94	
35	056+00.916	N LIM FARIBAULT (OUTSIDE), N URB BDRY NEAR JCT TH 60	23.895
	080+00.834	SCOTT-DAKOTA CO LINE, S LIM LAKEVILLE	
35	088+00.267	S JCT ISTH-35W & ISTH-35E	148.472
	236+00.707	S LIM CLOQUET S URB BDRY CLOQUET AT BR# 9469	
35	239+00.099	E LIM CLOQUET, E URB BDRY CLOQUET NEAR BR# 09803	9.433
	248+00.523	W LIM PROCTOR W URB BDRY DULUTH NEAR UGSTAD RD	
52	046+00.374	JCT TH 90	5.345
	051+00.429	S URB BDRY ROCHESTER	
60	065+00.277	JCT TH 4 NEAR ST JAMES	4.725
	070+00.001	JCT CSAH 12	
15/60	036+00.868	JCT CSAH 9 MADELIA BYPASS	1.499
	038+00.159	JCT TH 15 MADELIA BYPASS	
60	084+00.096	JCT 15 MADELIA BYPASS	0.309
	084+00.405	JCT 15 MADELIA BYPASS	
71	120+00.824	JCT TH 23	4.282
	124+00.954	S URB BDRY WILLMAR	
90	000+00.000	SOUTH DAKOTA STATE LINE	42.234
	042+00.242	W LIM WORTHINGTON, W URB BDRY NEAR TH 266	
90	045+00.315	E LIM WORTHINGTON, E URB BDRY, TH 60	132.610
	175+00.127	W LIM AUSTIN, W URB BDRY	

~~90~~	~~180+00.798~~	~~E LIM AUSTIN, E U RD BDRY NEAR CSAH 46~~	~~95.191~~
	276+00.891	WISCONSIN STATE LINE	
94	004+00.118	E URB BDRY MOORHEAD NEAR WEIGH STATION	49.567
	053+00.681	N LIM FERGUS FALLS, N URB BDRY NEAR TH 210	
94	054+00.929	S LIM FERGUS FALLS, S URB BDRY NEAR OTTER TAIL RIVER	157.251
	211+00.502	N LIM MAPLE GROVE, W URB BDRY TWIN CITIES NEAR WEIGH STA	
94	253+00.667	W LIM AFTON, E URB BDRY TWIN CITIES NEAR MANNING RD	4.854
	~~258+00.507~~	~~W END BR# 5999, ST CROIX RIVER~~	

~~35E~~	~~088+00.267~~	~~S JCT ISTH-35W & ISTH-35~~	~~29.863~~
	117+00.942	N URB BDRU TWIN CITIES NEAR SOO BR# 9592	
35W	000+00.000	S JCT ISTH-35 & ISTH—35E	38.668
	038.00.630	N URB BDRY TWIN CITIES, CSAH 14, BR# 9830	
36	000+00.000	JCT ISTH-35W NB	7.007
	7+00.001	JCT TH 61 IN MAPLEWOOD	
52	051+00.429	S URB BDRY ROCHESTER	3.051
	054+00.297	S JCT USTH-14	
52	056+00.077	N JCT USTH-14	2.446
	058+00.533	37TH AVE IN ROCHESTER	
61	123+00.653	S URB BDRY TWIN CITIES	4.641
	128+00.278	CR 74 IN NEWPORT	
62	103+00.592	JCT ISTH-494 NB IN EDEN PRAIRIE	7.883
	111+00.475	W JCT ISTH-35W NB IN RICHFIELD	
62	112+00.032	E JCT ISTH-35W NB IN RICHFIELD	3.910
	115+00.942	JCT MNTH-55 EB IN FORT SNELLING	
71	124+00.954	S URB BDRY WILLMAR	1.659
	126+00.537	N LIM WILLMAR, N URB BDRY CR-90 RT	
71	120+00.824	JCT TH 23	4.282
	124+00.954	S URB BDRY WILLMAR	
77	000+00.000	JOHNNY CAKE RIDGE RD MSAS-103 IN APPLE VALLEY	11.393
	011+00.393	JCT MNTH-62 EB IN MINNEAPOLIS	
90	042+00.242	W LIM WORTHINGTON, W URB BDRY NEAR TH 266	3.056
	045+00.315	E LIM WORTHINGTON, E URB BDRY NEAR TH 60	
90	175+00.127	W LIM AUSTIN, W URB BDRY NEAR CO LINE	5.666
	180+00.798	E LIM AUSTIN, E URB BDRY NEAR CSAH 46	
94	000+00.00	MIDDLE BR-9067, N DAK-MN LINE	4.087
	004+00.118	E URB BDRY MOORHEAD NEAR WEIGH STA	
94	053+00.681	N LIM FER FALLS, N URB BDRY NEAR TH 210	1.249
	054+00.929	S LIM FER FALLS, S URB BDRY NEAR OTTER TAIL RIVER	
94	211+00.502	N LIM MAPLE GR, W URB BDRY TWIN CITIES NEAR WEIGH STA	30.400
	241+00.935	W. JCT ISTH-35E IN ST. PAUL NEAR CEDAR AVE	
94	242+00.052	E JCT ISTH-35E IN ST PAUL	11.596
	253+00.667	W LIM AFTON, E URB BDRY TWIN CITIES NEAR MANNING AVE	

10	0000+00.000 016+00.158	JCT ISTH-494 WB IN EDINA JCT ISTH-694 EB IN BROOKLYN CENTER	16.178
169	52+00.202 54+00.178	BLUE EARTH RIVER IN MANKATO BELGRADE AVE. IN N MANKATO	2.025
169	122+00.172 138+00.880	E JCT ISTH-494 WB IN BLOOMINGTON 77TH AVE IN BROOKLYN PARK	16.618
28	0000+00.000 003+00.710	JCT ISTH-94 EB IN ST PAUL JCT ISTH-35W NB IN ROSEVILLE	3.710
394	000+00.000 009+00.721	JCT ISTH-494 NB WASHINGTON AVE N IN MPLS USTH-952A	9.721
494	000+00.000 027+00.973	E END BR-0217, MN RIVER JCT ISTH-94 EB IN MAPLE GROVE	27.993
494	058+00.187 072+00.886	JCT ISTH-94, JCT ISTH-694 IN WOODBURY E END BR-9217, MN RIVER	14.863
535	000+00.000 001+00.571	WISCONSIN-MINNESOTA STATE LINE JCT ISTH-35 NB IN DULUTH	1.571
694	034+00.197 046+00.449	JCT ISTH-94 EB IN BROOKLYN CENTER W JCT ISTH-35E IN LITTLE CANADA	12.226
694	047+00.104 058+00.187	E JCT ISTH-35E IN VADNAIS HEIGHTS JCT ISTH-94, JCT ISTH-494 IN WOODBURY	11.066

Note: Metro area less than one mile long in rural areas and are not included in the above.